Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

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1. (currently amended) A traffic monitoring equipment including:

a traffic monitoring function for monitoring traffic information relating to datagrams that have been transmitted by ~~a user~~ individual users to a network or the datagrams that have been received from said network by said ~~user~~ individual users during a specific time interval between a pre-determined earlier point in time and a current point in time, and storing monitored results;

a preference value computation function for evaluating the ~~user's~~ individual users' usage of communications, based on the traffic information obtained by said traffic monitoring function, quantifying the results of evaluation and converting the results of quantification to a preference value; and

a preference value insertion function for inserting said preference value in a header of a datagram being processed at said current point in time.

2. (currently amended) A datagram transfer system for receiving datagrams sent from ~~a user terminal~~ individual users' terminals in a datagram transmission node and forwarding said datagrams to a destination address specified on a header of said datagrams, wherein an impact of said datagrams on network operation is evaluated by a traffic monitoring equipment according to traffic information on said datagrams,

evaluation results are quantified, and quantified results are converted and are inserted in said header as a preference value.

3. (previously presented) A datagram transfer system according to claim 2, wherein said system includes a device for performing prioritized forwarding of said datagrams according to said preference value specified in each header of said datagrams.

4. (previously presented) A datagram transfer system according to claim 2, wherein said datagram transmission node includes a back plane switch section for transferring a datagram from an incoming interface section to an outgoing interface section without causing internal blocking, and a buffer enqueue control section for obtaining the preference value from the datagram received in said outgoing interface section, selecting priority datagrams to be transmitted successively in an ascending order of preference values from a low preference value to a high preference value so as to avoid traffic congestion and entering said priority datagrams in a buffer memory.

5. (original) A datagram transfer system according to claim 2, wherein said traffic information includes a length of a datagram or time intervals between transmissions of successive continual datagrams.

6. (previously presented) A datagram transfer system according to claim 2, wherein said traffic monitoring equipment uses a length field of said datagrams provided in the header of a datagram for inserting the preference value.

7. (previously presented) A datagram transfer system according to claim 2, wherein said traffic monitoring equipment computes the preference value based on an inverse of a difference between transmission times of one previous datagram and a current datagram, as well as on lengths of datagrams that has been transmitted or received at corresponding times.

8. (previously presented) A datagram transfer system according to claim 2, wherein said traffic monitoring equipment computes an average rate, for use as the preference value, obtained by using a sliding window method of computation based on a length of a datagram and time intervals between transmissions of successive continual datagrams.

9. (previously presented) A datagram transfer system according to claim 2, wherein said traffic monitoring equipment computes an average rate during a monitoring period, for use as the preference value, obtained form a length of a datagram and time intervals between transmissions of successive transmissions of continual datagrams.

10. (previously presented) A datagram transfer system according to claim 2, wherein said traffic monitoring equipment computes a difference between a number of datagrams transmitted by a user and a number of datagrams received by said user, for use as the preference value.

11. (previously presented) A datagram transfer system according to claim 4, wherein said buffer enqueue control section includes the preference value extraction function to obtain a preference value; a preference value comparison function to perform sorting by using said preference value as a sort key; so as to prioritize datagrams in an ascending order of preference values and to enable a buffer enqueue control section to enter datagrams in the buffer memory according to said ascending order of preference values.

12. (previously presented) A datagram transfer system according to claim 4, wherein said outgoing interface section includes a class-divided buffer memory section having a plurality of priority orders, and said buffer enqueue control section performs prioritized forwarding by entering datagrams in said class-divided buffer memory section according to the preference value.

13. (previously presented) A datagram transfer system according to claim 11, wherein the preference value is acquired at fixed periodic intervals or at periodic intervals that can be varied according to rates of arrival of datagrams.

14. (previously presented) A datagram transfer system according to claim 11, wherein said buffer enqueue control section judges whether to transmit a datagram prior to entering said datagram in the buffer memory, and if it is judged not to transmit the datagram, said datagram is discarded even if there are vacant memory spaces available, and if it is judged to transmit the datagram, said datagram is entered in said buffer memory.

15. (previously presented) A datagram transfer system according to claim 11, wherein said buffer enqueue control section computes sums of preference values of processed datagrams that have been entered in the buffer memory, computes probability values based on results of summing computation, and discards datagrams according to resulting probability values.

16. (previously presented) A datagram transfer system according to claim 11, wherein said buffer enqueue control section prioritizes the datagrams in the ascending order of preference values, obtains probability values derived from buffer utilization according to said ascending order, and discards datagrams according to said probability values.

17. (currently amended) A method for performing prioritized transfer of datagrams transmitted by individual users far being transferred through a network including the steps of:

evaluating an impact of transmitting a datagram on network operation for each of the individual users;

computing a preference value for said datagram to reflect evaluation result;

inserting a computed result in a header of said datagram; and

performing prioritized forwarding the datagrams according to the preference value computed far successive datagrams.

18. (previously presented) A datagram transfer system according to claim 2, wherein said datagram transmission node includes a back plane switch section for transferring a datagram from an incoming interface section to an outgoing interface section without causing internal blocking; wherein said outgoing interface section prepares a threshold value at a selected timing so that the preference value is obtained from the header of a received datagram so that, based on said threshold value and said preference value, a judgment is made whether or not to transmit said received datagram prior to entering said received datagram in a buffer memory so that if said received datagram is not to be transmitted, said received datagram is discarded even if there are vacant memory spaces available, and if said received datagram is to be transmitted, said received datagram is entered in said buffer memory by a buffer enqueue control section.

19. (previously presented) A datagram transfer system according to claim 18, wherein said judgment conducted prior to entering the datagram in the buffer memory is performed by comparing the threshold value with the preference value of the received datagram so that said received datagram is discarded when said preference value is higher than said threshold value.

20. (previously presented) A datagram transfer system according to claim 18, wherein said judgment, conducted prior to entering the datagram in the buffer memory, is performed by comparing the threshold value with the preference value of the received datagram so that a probability can be computed using a function with input parameters

based on a difference between said threshold value and said preference value to determine whether to transmit or not to transmit said received datagram.

21. (previously presented) A datagram transfer system according to claim 19, wherein said buffer enqueue control section includes a preference value storage function for storing time data related to events of either arrival of datagrams within a pre-determined time interval, transfer or discard of datagrams as well as the preference value so as to enable to compute the threshold value based on the preference value.

22. (previously presented) A datagram transfer system according to claim 18, wherein said judgment, conducted prior to entering the datagram in the buffer memory, is performed by computing a probability using a function with input parameters based on the threshold value, the preference value of the received datagram, and a buffer utilization factor or an estimate of buffer utilization so that said received datagram is discarded based on said probability.

23. (previously presented) A datagram transfer system according to claim 22, wherein said judgment, conducted prior to entering the received datagram in the buffer memory, is performed in such a way that all datagrams with preference values higher than a product of the buffer utilization factor or the estimate of buffer utilization and the threshold value are discarded regardlessly, and, failing such a criterion, all datagrams with preference values higher than said threshold value are processed so as to discard those datagrams having high preference values preferentially at a higher probability, and,

when said buffer utilization factor or the estimate of buffer utilization is high, to discard those datagrams having high preference values preferentially at a much higher probability.

24. (previously presented) A datagram transfer system according to claim 23, wherein said threshold value, to be used to judge transmission of a datagram, is computed by randomly sampling preference values of arrived datagrams at a selected probability; storing a given number of preference values; and designating a center value of sampled preference values as the threshold value at a selected timing.

25. (previously presented) A datagram transfer system according to claim 23, wherein said threshold value, to be used to judge transmission of the datagram, is computed by randomly sampling preference values of arrived datagrams at a selected probability; storing a given number of preference values; and designating an average value of sampled preference values as the threshold value at a selected timing.

26. (previously presented) A datagram transfer system according to claim 23, wherein said threshold value, to be used to judge transmission of the datagram, is computed by randomly sampling preference values of datagrams selected for transmission at a selected probability; storing a given number of preference values; and designating an average value of sampled preference values as a threshold value at a selected timing.

27. (previously presented) A datagram transfer system according to claim 20, wherein said buffer enqueue control section includes a preference value storage function for storing time data related to events of either arrival of datagrams within a pre-determined time interval, transfer or discard of datagrams as well as the preference value so as to enable to compute the threshold value based on the preference value.